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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	mutated alkaline cellulase	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/05/30 12:49
L2	262	alkaline cellulase	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/05/30 12:50
L3	209	l2 and @py<"2004"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/05/30 12:51
L4	0	l3 and SEQ ID NO: 2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/05/30 12:51

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mutated AND "alkaline cellulase"



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- ☐ 1. **MUTATED ALKALINE CELLULASE**  
**(HAKAMADA, Yoshihiro) / (OZAWA, Tadahiho) / (KOBAYASHI, Tooru) / (KAO CORPORATION), PATENT COOPERATION TREATY APPLICATION, Nov 2003**  
 A **mutated alkaline cellulase** derived from a cellulase having the amino acid sequence represented...the deletion site and a gene encoding the same. The above **alkaline cellulase** has an optimum pH value close to the pH value of laundry water...  
**Full text available at patent office. For more in-depth searching go to**  LexisNexis  
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- ☐ 2. **Alkaline cellulase variants**  
**Hakamada, Yoshihiro / Sawada, Kazuhisa / Endo, Keiji / Kodama, Hiroshi / Wada, Yasunao / Shikata, Shitsu / Kobayashi, Tooru / Kao Corporation, UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT, Apr 2006**  
 ...present invention relates to **alkaline cellulase** variants having an amino...ID NO: 2, wherein said **alkaline cellulase** variant is **mutated** to include at least one...corresponding thereto, wherein said **alkaline cellulase** variant has **alkaline cellulase**...  
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- ☐ 3. **Genencor: Glossary** [45K]  
 Mar 2006  
 ...stalks from processed corn, or pesticide residue. **Alkaline cellulase** Enzyme used in detergents that helps reduce disadvantages...technology whereby the host production organism is adapted/**mutated** to allow economical, high level production of the...  
[\[http://www.genencor.com/wt/gcor/glossary\]](http://www.genencor.com/wt/gcor/glossary)  
[similar results](#)
- ☐ 4. **Identification of thermostabilizing residues in a Bacillus alkaline cellulase by construction of chimeras from...**  
**Hakamada, Y. / Hatada, Y. / Ozawa, T. / Ozaki, K. / Kobayashi, T. / Ito, S., FEMS Microbiology Letters, Feb 2001**  
 ...Identification of thermostabilizing residues in a Bacillus **alkaline cellulase** by



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construction of chimeras from mesophilic and thermostable...extracellularly by *B. subtilis* ISW1214, the plasmids containing a **mutated** Egl-64 gene were each digested with *Hin* dIII. The respective...

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- ☐ **5. Supplement to the** [PDF-2MB]  
Apr 2006  
Supplement to the AUSTRALIAN OFFICIAL JOURNAL OF PATENTS The Australian Official Journal of Patents (Supplement) is part of the Official Journal issued by the Commissioner of Patents for the purpose of the Patents Act 1990, the Trade Marks Act 1995 and the Designs Act 1906.  
[<http://pericles.ipaustralia.gov.au/ols/epublish/conten...>]  
[similar results](#)
- ☐ **6. METHODS FOR PREVENTING, REMOVING, REDUCING, OR DISRUPTING BIOFILM**  
**DEINHAMMER, Randy / ANDERSEN, Carsten / NOVOZYMES NORTH AMERICA, INC., PATENT COOPERATION TREATY APPLICATION**, Mar 2006  
The present invention relates to methods for preventing, removing, reducing, or disrupting biofilm present on a surface, comprising contacting the surface with an alpha-amylase derived from a bacterium.  
**Full text available at patent office. For more in-depth searching go to**  **LexisNexis**  
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- ☐ **7. RECOMBINANT MICROORGANISM**  
**TOHATA, Masatoshi / SAWADA, Kazuhisa / OZAKI, Katsuya / SEKIGUCHI, Junichi / KAO CORPORATION, PATENT COOPERATION TREATY APPLICATION**, May 2005  
...Alternatively, the target gene is **mutated** (or knocked out) by substitution or...types of industrial enzymes include **alkaline cellulase** which is derived from the genus *Bacillus*...an amino-acid SEQ ID NOs: 2 or 4, **alkaline cellulase** which has an amino-acid sequence in...  
**Full text available at patent office. For more in-depth searching go to**  **LexisNexis**  
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[similar results](#)
- ☐ **8. Title of Invention: Method of preparing a B-1,4 gly can matrix containing a bound fusion protein** [110K]  
Oct 2004  
...1096-1099. A de-inking process for waste paper for recycling comprising pulping at high pH, then lowering the pH and adding **alkaline cellulase** has been described in WO91/14819 published Oct. 3, 1991. SUMMARY OF THE INVENTION Compositions, together with methods...  
[[http://www.nal.usda.gov/bic/Biotech\\_Patents/1994patent...](http://www.nal.usda.gov/bic/Biotech_Patents/1994patent...)]  
[similar results](#)
- ☐ **9. Peters, J** [115K]  
Dec 2005  
...mitotic phosphorylation sites have been **mutated** to alanine alleviates the precocious...mitosis-specific sites on Scc1 and SA2, **mutated** them, and expressed nonphosphorylatable...Omp alpha from *Thermotoga maritima*, an **alkaline cellulase** from *Bacillus* strain KSM-635, and xylanases...  
[more hits from](#) [<http://bioinfo.pl/auth:Peters,J>]  
[similar results](#)
- ☐ **10. Increasing the thermal stability of cellulase C using rules learned from thermophilic proteins: a pilot study**  
**Nemeth, A. / Kamondi, S. / Szilagyi, A. / Magyar, C. / Kovari, Z. / Zavodszky, P.,**




*Biophysical Chemistry*, May 2002





...to find suitable conformations for the **mutated** side chain. These conformations were further...residues. These side chains were actually **mutated** in the program and tested by rotamer search...Asn9Asp mutant where a buried residue was **mutated**. Actually, in the literature, it is debated...

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- ☐ **11. CRYSTALLISED THERMOSTABLE GLYCOSYL HYDROLASE AND USE THEREOF FOR MODIFYING STRUCTURALLY RELATED ENZYMES**  
**CRENNELL, Susan, J. / NORDBERG KARLSSON, Eva, Margareta / HREGGVIDSSON, Gudmundur, Oli / KRISTJANSSON, Jakob / AEVARSSON, Arnthor / PROKARIA EHF., PATENT COOPERATION TREATY APPLICATION**, Oct 2003  
 The crystal of a hyperthermostable cellulase from *Rhodothermus marinus* and the three-dimensional structure of the enzyme are provided. The enzyme belongs to the family 12 glycosyl hydrolases. The invention further provides procedures for the...  
**Full text available at patent office. For more in-depth searching go to**  **LexisNexis**  
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- ☐ **12. Bioscience, Biotechnology and Biochemistry [72K]**  
 Jul 2003  
 ...Sequence and Possible Catalytic Residues of a Thermostable, **Alkaline Cellulase** from an Alkaliphilic *Bacillus* Strain Yoshihiro HAKAMADA...Sequence and Possible Catalytic Residues of a Thermostable, **Alkaline Cellulase** from an Alkaliphilic *Bacillus* Strain Yoshihiro HAKAMADA...  
[\[http://www.jsbba.or.jp/02/bbb6411.html\]](http://www.jsbba.or.jp/02/bbb6411.html)  
[similar results](#)
- ☐ **13. Structural basis for the enhanced thermal stability of [PDF-63K]**  
 Feb 2005  
 ...In this experiment, the individual contributions of the two **mutated** charged residues, Q165E and M304R, of CbADH were additive...to the thermal stability of the thermophilic ADH, we further **mutated** the quadruple mutant of CbADH by replacing Arg238 of CbADH...  
[\[http://www.math.princeton.edu/~kris/ariel/salt\\_bridges...\]](http://www.math.princeton.edu/~kris/ariel/salt_bridges...)  
[similar results](#)
- ☐ **14. MUTANT THERMOMONOSPORA SPP. CELLULASE**  
**GOEDEGEBUUR, Frits / WINETZKY, Deborah / POWER, Scott, D. / VAN KIMMENADE, Anita / YOON, Mee-Young / GENENCOR INTERNATIONAL, INC., EUROPEAN PATENT**, Jun 2000  
 BACKGROUND OF THE INVENTION The present invention is directed to novel cellulase compositions and methods of use therefor in industrial processes. In particular, the present invention is related to treating textiles, e.g., laundering and...  
**Full text available at patent office. For more in-depth searching go to**  **LexisNexis**  
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- ☐ **15. A METHOD FOR ENZYMATIC TREATMENT OF BIOFILM**  
**JOHANSEN, Charlotte / Novozymes A/S, EUROPEAN PATENT**, Oct 1999  
 ...subtilisin variant or **mutated** subtilisin protease...parent gene having been **mutated** in order to produce...gene from which said **mutated** subtilisin protease...acid, a neutral of an **alkaline cellulase** or endoglucanase, i...  
**Full text available at patent office. For more in-depth searching go to**  **LexisNexis**  
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- 16. Deduced amino-acid sequence and possible catalytic residues of a novel pectate lyase**

- ☐ [from an alkaliphilic strain of Bacillus -- ... \[92K\]](#)  
**Ito, S / Yuji Hatada , / Kazuhiro Saito , / Kenzo Koike , / Tadashi Yoshimatsu , ,**  
 Dec 2004  
 ...0.6-kb promoter region of a Bacillus **alkaline cellulase** gene [ 32 ] connected to the  
 0.8-kb...subtilis ISW1214, the plasmids containing a **mutated** gene were each digested  
 with both Sal...25 ]. The recombinant wild-type and **mutated** Pel-15 proteins were  
 purified individually...  
[\[http://www.ejbiochem.org/cgi/content/full/267/8/2268\]](http://www.ejbiochem.org/cgi/content/full/267/8/2268)  
[similar results](#)
- ☐ **17. MODIFIED TARGET ENZYMES HAVING CATALYTIC TRIADS AND USES THEREOF**  
**SHAW, Andrew / GENENCOR INTERNATIONAL, INC., PATENT COOPERATION**  
**TREATY APPLICATION**, Aug 2002  
 ...in soda lakes & Pennisi, Science, 276:705 (1997)&rsqb;. Cellulase 103, in its  
 isolated native sequence form, is an **alkaline cellulase** with a pH optimum of - 4 - about  
 8.0. The folding motif of the enzyme is catalytic core was identified as a (beta/alpha...  
**Full text available at patent office. For more in-depth searching go to**  LexisNexis  
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- ☐ **18. METHODS FOR ELIMINATING THE FORMATION OF BIOFILM**  
**XU, Feng / NOVOZYMES BIOTECH, INC., PATENT COOPERATION TREATY**  
**APPLICATION**, Dec 2001  
 The present invention relates to methods for preventing or removing biofilm on a surface,  
 comprising contacting the surface with an effective amount of a composition comprising  
 one or more acylases and a carrier to degrade a lactone produced by one or...  
**Full text available at patent office. For more in-depth searching go to**  LexisNexis  
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- ☐ **19. PROCESS FOR REMOVAL OR BLEACHING OF SOILING OR STAINS FROM CELLULOSIC**  
**FABRIC**  
**VON DER OSTEN, Claus / CHERRY, Joel, R. / BJORNVAD, Mads, Eskelund / VIND,**  
**Jesper / RASMUSSEN, Michael, Dolberg / Novozymes A/S, EUROPEAN PATENT,**  
 Dec 1998  
 ...may be an acid, a neutral or an **alkaline cellulase**, i.e. exhibiting maximum  
 cellulolytic...useful cellulase is a neutral or **alkaline cellulase**, preferably a fungal  
 neutral or **alkaline cellulase**, which is derived from or producible...  
**Full text available at patent office. For more in-depth searching go to**  LexisNexis  
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- ☐ **20. A METHOD OF KILLING OR INHIBITING MICROBIAL CELLS**  
**JOHANSEN, Charlotte / Novozymes A/S, EUROPEAN PATENT**, Dec 1998  
 ...subtilisin variant or **mutated** subtilisin protease...parent gene having been **mutated** in  
 order to produce...gene from which said **mutated** subtilisin protease...acid, a neutral of  
 an **alkaline cellulase** or endoglucanase, i...  
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mutated "alkaline cellulase" loop region

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- ☐ 1. CRYSTALLISED THERMOSTABLE GLYCOSYL HYDROLASE AND USE THEREOF FOR MODIFYING STRUCTURALLY RELATED ENZYMES  
**CRENNELL, Susan, J. / NORDBERG KARLSSON, Eva, Margareta / HREGGVIDSSON, Gudmundur, Oli / KRISTJANSSON, Jakob / AEVARSSON, Arnthor / PROKARIA EHF., PATENT COOPERATION TREATY APPLICATION**, Oct 2003  
 ...structures to the crystallized Cell2A, in the above structurally defined **regions**. However, they may have less well-defined connecting **regions** (e.g. loops) in between these defined **regions**. 5 The term "structural entity" in this context refers to one or...  
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- ☐ 2. Increasing the thermal stability of cellulase C using rules learned from thermophilic proteins: a pilot study  
**Nemeth, A. / Kamondi, S. / Szilagyi, A. / Magyar, C. / Kovari, Z. / Zavodszky, P., Biophysical Chemistry**, May 2002  
 ...tend to contain shorter **loop regions** [15]. Therefore, we...conformations for the **mutated** side chain. These conformations...so that only a short **loop** remains instead. The...a buried residue was **mutated**. Actually, in the literature...mutant Loops are flexible **regions** in proteins that can...Although this is not a **loop** (it has a well-defined...  
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- ☐ 3. CELLULASE VARIANTS  
**SCHÜ / LEIN, Martin / FREDHOLM, Henrik / HJORT, Carsten, Mailand / RASMUSSEN, Grethe / NIELSEN, Egon / ROSHOLM, Peter / NOVO NORDISK A/S, PATENT COOPERATION TREATY APPLICATION**, Apr 1994  
 ...cleft, and a positively charged surface **region** in the vicinity of at least one amino...site and optionally a flexible surface **loop region** which can close upon the catalytic active...During docking the flexible surface **loop region**, resi- due 111-119, changes conformation...  
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Identification of thermostabilizing residues in a **Bacillus alkaline cellulase** by construction of ... - group of 3 »

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Y Hakamada, Y Hatada, T Ozawa, K Ozaki, T ... - FEMS Microbiology Letters, 2001 - Blackwell Synergy  
... glucanase (Egl; EC 3.2.1.4), a **cellulase** produced by ... 72 h, with shaking, in an **alkaline**  
medium (pH ... subtilis ISW1214, the plasmids containing a **mutated** Egl-64 ...  
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Deduced amino-acid sequence and possible catalytic residues of a novel pectate lyase from an ... - group of 6 »

Y Hatada, K Saito, K Koike, T Yoshimatsu, T Ozawa, ... - FEBS Journal, 2000 - content.febsjournal.org  
... kb promoter region of a **Bacillus alkaline cellulase** gene [32 ... from -606 to -584 of  
the **cellulase** gene), and ... ISW1214, the plasmids containing a **mutated** gene were ...  
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... strength on the adsorption and activity of native and **mutated** cellobiohydrolase from *Trichoderma* ... - group of 2 »

T Reinikainen, O Teleman, TT Teeri - Proteins: Struct. Funct. Genet, 1995 - doi.wiley.com  
... shown that separation between the **cellulase** domains is im ... with the fragment containing  
the **mutated** region and ... rec- ognized by commercial **alkaline** phosphatase Ia ...  
Cited by 33 - [Web Search](#) - [BL Direct](#)

Engineering of a glycosidase Family 7 cellobiohydrolase to more **alkaline** pH optimum: the pH ... - group of 6 »

D Becker, C Braet, H Brumer III, M Claeysens, C ... - Biochemical Journal, 2001 - biochemj.org  
... In addition to Cel7A, the Tr **cellulase** complex contains another ... side chain of His  
224 in the **mutated** enzyme (Figure 4 ... The shift to a more **alkaline** pH optimum of ...  
Cited by 9 - [Cached](#) - [Web Search](#) - [BL Direct](#)

Molecular Biology of Cellulose Degradation - group of 4 »

P Beguin - Annual Review of Microbiology, 1990 - micro.annualreviews.org  
... Thi; variability suggests that interspecific exchange of **cellulase** genes has occun ...  
been demonstrated for TnphoA- generated fusions of **alkaline** phosphatase with ...  
Cited by 114 - [Web Search](#)

Activities of **cellulase** and other extracellular enzymes during lignin solubilization by *Streptomyces* ...

LAV Deobald, DLV Crawford - Applied Microbiology and Biotechnology, 1987 - Springer  
... of substituted cinnamic acids released upon **alkaline** ester hydrolysis ... It is possible  
that the **cellulase** expres- sion ... which in the mutants is probably **mutated**. ...  
Cited by 6 - [Web Search](#)

The relationship between thermal stability and pH optimum studied with wild-type and mutant ... - group of 6 »

H Boer, A Koivula - FEBS Journal, 2003 - ejbiochem.org  
... a desired pH optimum in some **cellulase** applications, Cel7A ... four additional amino  
acids were **mutated** to facilitate ... optimum shifted to a more **alkaline** pH almost ...  
Cited by 3 - [Web Search](#) - [BL Direct](#)



Cloning and Characterization of Two Closely Linked **Cellulase** Genes from *Cellvibrio mixtus* - group of 3 »

CM Kahler - Current Microbiology, 1996 - Springer

... naturally in these exconjugants, and the **mutated** plasmids were ... CM Kahler and JM

Pemberton: **Cellulase** Genes from ... DNA was prepared by the **alkaline** lysis method ...

Cited by 1 - [Web Search](#) - [BL Direct](#)

Regulation of *Trichoderma* **cellulase** formation: lessons in molecular biology from an industrial ... - group of 2 »

MV Schmoll, CPV Kubicek - Acta Microbiologica et Immunologica Hungarica, 2003 - akademiai.com

... of 2-deoxyglucose [68], bears a **mutated** cre1 gene ... avenues for the improvement of the **cellulase** promoters. ... Family 7 cellobiohydrolase to more **alkaline** pH optimum ...

Cited by 6 - [Web Search](#) - [BL Direct](#)

Structural basis of the properties of an industrially relevant thermophilic xylanase - group of 4 »

GW Harris, RW Pickersgill, I Connerton, P Debeire, ... - Proteins Structure Function and Genetics, 1997 - doi.wiley.com

... requires a xylanase that is thermostable, active at **alkaline** pH, and lacks **cellulase** activity ... 2). The sequence of the model structure was **mutated** in O to ...

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